

Recommendations of the 10th International Wadden Sea Symposium

The 10th International Wadden Sea Symposium was held in Groningen, the Netherlands, from 30 October – 2 November 2000. The symposium was attended by about 150 scientists and representatives from governmental and non-governmental organizations.

The symposium, titled "Challenges to the Wadden Sea Area", addressed the integration of ecology and economy. Presentations were given on sustainable tourism development, coastal protection and climate change, mussel and shrimp fisheries, development of socio-economic targets, cultural heritage, salt marsh management and restoration of habitats. A special lecture was presented by Prof. Chul-Hwan Koh from the University of Seoul on the ecology of the tidal flats in South Korea and the current threats concerning large-scale embankments (see also WSNL 1999, No.1).

On the basis of the presentation and related discussions, the symposium formulated a number of recommendations to the Trilateral Governmental Conference in Esbjerg, 31 October 2001.

The 10th International Wadden Sea Symposium

Having noted 43 oral scientific presentations and 24 poster presentations during the symposium,

Considering the discussions after the oral presentations and during the poster presentations as well as the discussions during the workshop on eider duck mortality,

Shore erosion

Concludes that

The Wadden Sea faces erosion of its shorelines in many places and consequently major human interventions resulting in artificial constructions.

That sand nourishment proves to be an ecologically sound alternative although the ecology of sandy beaches may require more attention.

Recommends

To use sand nourishment on beaches and fore-shore as the preferred technique for coastal protection.

To extract the sand needed for nourishment from places in the North Sea where the least damage to the underwater ecosystem is anticipated.

Salt marsh management

Concludes that

Although salt marsh management by means of sheep or cattle grazing can increase the carrying capacity for geese, these management measures would disadvantage other species within the habitat.

A management of all habitats for geese by means of intensive or moderate sheep grazing intensities is, therefore, neither necessary nor appropriate and would oppose other management options.

Recommends that

Salt marsh management – as already recommended at earlier symposia – should be based on clearly defined aims after which appropriate management measures should be taken.

Eelgrass restoration

Observes that

Eelgrass (*Zostera marina*) is declining in most of the Wadden Sea.

Restoration of estuarine gradients and decrease of nutrient loads are beneficial for eelgrass occurrence.

Bottom fisheries are able to destroy eelgrass occurrences.

Concludes that

Restoration of eelgrass beds in the Wadden Sea is a viable option, but that separate restoration programs might be required for two different morphotypes of *Z. marina*: the flexible (growing around Mean Sea Level) and the robust type (occurring around Low Tide Level).

In that case the flexible type of eelgrass should be restored first.

Harbour seal population growth

Concludes that

The population of the harbour seal in the Wad-

den Sea is growing fast and that this may result in conflicts with users of the Wadden Sea.

Recommends

To start trilateral research on how to reconcile the protection of the growing seal stock with the development of recreation and tourism and with fisheries management.

Shrimp fisheries

Concludes that

That reduction of shrimp fishery during a few weeks in summer may contribute to better survival of juvenile plaice, without having much effect on the yields of the shrimp fisheries.

Considering

The wish for sustainable fisheries.

Recommends

A careful consideration of the feasibility of this reduction of fishing effort which may be supplemented by technical measures to reduce by-catch.

Intertidal beds of mussels and cockles

Concludes that

Intertidal mussel beds, after having been destroyed, require much more time to restore naturally than earlier assumed;

There are indications that recruitment of cockles is negatively influenced by mechanized cockle fisheries.

Recommends that

These new findings will be made the subject of further research and that the available evidence will be used in the management of the shellfisheries.

Mortality of eider ducks

Concludes that

The major cause of the mortality of eider ducks in the Wadden Sea in the winter of 1999/2000 was food shortage, possibly caused by a coincidence of structurally low resources since 1990 and even lower stocks in the winter 1999/2000, low quality of the shellfish, many crabs, and no *Spisula*;

That we have been unable to determine the cause(s) of this food shortage with certainty because major data were lacking or not available.

Recommends that

To better understand the apparent reduction of the carrying capacity of the Wadden Sea for shellfish consuming birds and to enable a suc-

cessful food reservation policy, more and reliable data about the shellfish resources have to be on hand, such as data on food quality of shellfish, stock assessments of blue mussels on the cultivation plots, intertidal and subtidal resources, as well as accurate counts of eiders ducks and other shell eating birds.

The Trilateral Monitoring and Assessment Group defines a catalogue of data to be monitored among which data of fishery activities. The data should be made available both at appropriate places on the Internet and in an annual report, along the lines of ICES annual working group reports.

To allow an appropriate assessment of the impact of shellfish fisheries, scientific investigations should be performed open and public, while results should preferably be peer reviewed. Any political translation of results into political decisions will have to follow a separate process.

The Baltic/Danish/German/Dutch Eider flyway population should be monitored on an international level.

To be better prepared for calamities, like the Eider mortality, the Common Wadden Sea Secretariat should be asked to draft a recording and analysis protocol.

Monitoring of fish and fisheries

Concludes that

The Wadden Sea provides space for a variety of ecological functions regarding demersal and pelagic fish and shrimp populations.

Existing policy aims at restoration of estuarine gradients, including free (or improved) passage for migratory (so called diadromous) fish species, most of which are on the Red List for the Wadden Sea.

Monitoring of fish and shrimps is not included in the Common Package of the Trilateral Monitoring and Assessment Program (TMAP).

Recommends that

Monitoring of fish is included in the TMAP Common Package, taking into account already existing programs (e.g. Demersal Young Fish Surveys), and the development of additional monitoring programs (for pelagic and diadromous species)

Socio-economic targets

Concludes that

Basic data for the socio-economic development of the Wadden Sea area are lacking for most areas.

Recommends to

Install a working group in order to elaborate socio-economic targets for the trilateral level.

Based on these targets, develop a socio-economic monitoring system that includes the basic parameters and database structures that allow for an assessment of the economic system of the Wadden Sea coastal region, in concomitance to the assessment of the ecosystem.

Stakeholders, inhabitants and users should be involved in this process at an appropriate stage. The Interregional Wadden Sea co-operation should be entrusted with this task.

Consider for this socio-economic monitoring to adapt the present delimitation of co-operation area, because so far the geographical delimitation of the co-operation area excludes regions with intensive human activities affecting the Wadden Sea. Therefore, it should be considered to extend the co-operation area to include adjacent mainland and sea areas.

Amend the Common Package of the Trilateral Monitoring and Assessment Program (TMAP) by integrating appropriate socio-economic monitoring parameters to monitor demographic changes, development of regional economics and social trends.

Integrate social, economic, cultural and ecological aspects in the sense of Agenda 21 and of Integrated Coastal Zone Management in the monitoring system.

Loss of Korean wetlands**Observes**

The actual and potential losses of important coastal biotopes due to the embankment of very large tidal flat areas in South Korea.

Recommends

To the 9th Trilateral Governmental Conference to initiate a cooperation with South Korea to foster the transfer of knowledge and experience in the fields of tidal flat ecology and coastal zone management as gained in the European Wadden Sea area.

Structure of the Scientific Wadden Sea Symposia**Concludes that**

The process of arriving at scientific conclusions at the Wadden Sea symposia and translating these into recommendations for management and policy may be optimised.

Recommends that

A small trilateral working group of scientists and government officials (with equal representations from the Wadden Sea countries) is set up to develop proposals for an efficient and unbiased transfer of scientific information [not: advice] from the Wadden Sea symposia to management and policy via the Trilateral Working Group and Trilateral Governmental Conference.

In addition to the above science-based conclusions and observations, and management and policy directed recommendations, the 10th International Scientific Wadden Sea Symposium

Observes that

Although there were 40% females among the participants of the symposium, no more than 15% of the oral presentations were given by female scientists.

There was a paucity of presentations really attempting to - at a conceptual level - integrate knowledge from biological and environmental sciences, technology, socio-economics and other disciplines towards policy development and management.

Recommends that

Home institutions and organizations encourage female scientists to submit contributions to the next International Scientific Wadden Sea Symposium.

The integrated approach of problems, such as dealt with in Integrated Coastal Zone Management, is better embedded in academic as well as in applied education programs in order to meet the future needs in this field.